

## FIG. 1

LOCUS	HSTGFB3M	2574 bp	RNA	PRI	12-SEP-1993
DEFINITION	Human mRNA for transforming growth factor-beta 3 (TGF-beta 3).				
ACCESSION	X14149				
NID	g37095				
KEYWORDS	growth factor; transforming growth factor; transforming growth factor-beta 3.				
SOURCE	human.				
ORGANISM	Homo sapiens Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata; Vertebrata; Eutheria; Primates; Catarrhini; Hominidae; Homo.				
REFERENCE	1 (bases 1 to 2574)				
AUTHORS	Chen, E.Y.				
TITLE	Direct Submission				
JOURNAL	Submitted (23-MAR-1989) Chen E.Y., Genentech Inc., 460 Pt. San Bruno Blvd., San Francisco, CA 94080, USA				
REFERENCE	2 (bases 1 to 2574)				
AUTHORS	Derynck, R., Lindquist, P.B., Lee, A., Wen, D., Tamm, J., Graycar, J.L., Rhee, L., Mason, A.J., Miller, D.A., Coffey, R.J., Moses, H.L. and Chen, E.Y.				
TITLE	A new type of transforming growth factor-beta, TGF-beta 3				
JOURNAL	EMBO J. 7 (12), 3737-3743 (1988)				
MEDLINE	89091120				
COMMENT	See <J03241> for alternative sequence of TGF-beta 3.				
FEATURES	Location/Qualifiers				
source	1..2574 /organism="Homo sapiens" /db_xref="taxon:9606" /tissue_type="placenta, ovary glioblastoma" /cell_line="A172 glioblastoma" /chromosome="14q24"				
CDS	254..1492 /note="TGF-beta 3 (AA 1-412)" /codon_start=1 /db_xref="PID:g37096" /db_xref="SWISS-PROT:P10600" /translation="MKMHLQALVVLALLNFATVSLSLSTCTTLDFGHIKKRVEAIR GQILSKLRLTSPPEPTVMTHVPYQVLALYNSTRELLEEMHGEREEGCTQENTSEYYA KEIHKFDMIQGLAEHNELAVCPKGITSKVFRFNVSSVEKNRTNLFRAEFRVLRVPNPS SKRNEQRIELFQILRPDEHIAKQRYIGGKNLPTRGTAEWLSFDVTDTVREWLLRESN LGLEISIHCPCHTFQPNGDILENIHEVMEIKFKGVDNEDDHGRGDLGRLKKQKDHNP HLILMMIPPHRLDNPQGQGRKKRALDTNYCFRNLEENCCVRPLYIDFRQDLGWKVVH EPKGYANFCGPGCPYLRADTTHTSTVLGLYNTLNPEASAPCCVPQDLEPLTILYYV GRTPKVEQLSNMVKCKCS"				
BASE COUNT	629 a	680 c	666 g	599 t	

205040" 05182001

## FIG. 1 (cont'd)

### ORIGIN

```
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121 caccttcttg ccaagcctca gtctttggga tctggggagg ccgcctgggt ttctctccctc
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241 tcccagctca cacatgaaga tgcacttgca aagggtctct gtggtcctgg ccctgctgaa
301 ctttgccacg gtcagcctct ctctgtccac ttgcaaccac ttggacttcg gccacatcaa
361 gaagaagagg gtggaagcca ttaggggaca gatcttgagc aagctcaggg tcaccagccc
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481 ccgggagctg ctggaggaga tgcattggga gaggaggaga ggctgcaccc aggaaaacac
541 cgagtcggaa tactatgcca aagaaatcca taaattcgac atgatccagg ggctggcgga
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661 gtctctcagt gagaaaaata gaaccaacct attccgagca gaattccggg tcttgccgggt
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841 tgccgagtgg ctgtcctttg atgtcactga cactgtgcgt gagtggctgt tgagaagaga
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961 agatatcctg gaaaacattc acgaggtgat ggaaatcaaa ttcaaaggcg tggacaatga
1021 ggatgaccat ggccgtggag atctggggcg cctcaagaag cagaaggatc accacaaccc
1081 tcatctaata ctcatgatga ttccccaca ccggctcgac aaccggggcc aggggggtca
1141 gaggaagaag cgggcttttg acaccaatta ctgcttccgc aacttgaggg agaactgctg
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1381 ttgctgcgtg cccagaggac tggagccctt gaccatcctg tactatgttg ggaggacccc
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1561 acacaagcaa caaacctcac tgagaggcct ggagcccaca accttcgggt ccggggcaat
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1741 ctgtgacgca gacagagggg atggggatag aggaaaggga tggtaagtgt agatgttgtg
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1861 ggccagactg gaagacactt cagatctgag gttggatttg ctcatgtctg taccacatct
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2161 gaaagggtgg aaatcaaccc tctcctgtct gccctctggg tccctcctct cacctctccc
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2461 agtatgaata ttactctcaa aatctttgta taaataaata tttttggggc atcctggatg
2521 atttcactct ctggaatatt gtttctagaa cagtaaaagg cttattctaa ggtg
```

## FIG. 2

LOCUS HSU22431 3678 bp mRNA PRI 28-JUN-1995  
DEFINITION Human hypoxia-inducible factor 1 alpha (HIF-1 alpha) mRNA, complete  
cds.  
ACCESSION U22431  
NID g881345  
KEYWORDS .  
SOURCE human.  
ORGANISM Homo sapiens  
Eukaryotae; mitochondrial eukaryotes; Metazoa; Chordata;  
Vertebrata; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
REFERENCE 1 (bases 1 to 3678)  
AUTHORS Wang, G.L., Jiang, B.H., Rue, E.A. and Semenza, G.L.  
TITLE Hypoxia-inducible factor 1 is a basic-helix-loop-helix-PAS  
heterodimer regulated by cellular O2 tension  
JOURNAL Proc. Natl. Acad. Sci. U.S.A. 92 (12), 5510-5514 (1995)  
MEDLINE 95296340  
REFERENCE 2 (bases 1 to 3678)  
AUTHORS Wang, G.L., Jiang, B.-H., Rue, E.A. and Semenza, G.L.  
TITLE Direct Submission  
JOURNAL Submitted (09-MAR-1995) Gregg L. Semenza, Center for Medical  
Genetics, The Johns Hopkins University School of Medicine, 600 N.  
Wolfe St., Baltimore, MD 21287-3914, USA  
FEATURES Location/Qualifiers  
source 1..3678  
/organism="Homo sapiens"  
/db\_xref="taxon:9606"  
/cell\_line="Hep3B"  
/cell\_type="hepatoblastoma"  
gene 29..2509  
/gene="HIF-1 alpha"  
CDS 29..2509  
/gene="HIF-1 alpha"  
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LTDDGDMIIYISDNVNKYMGLTQFELTGHSVDFDTHPCDHEEMREMLTHRNLGVKKGKE  
QNTQRSFFLRMKCTLTSRGRMTNKSATWKVLHCTGHIHVYDTNSNQPCGYKKPPMT  
CLVLICEPIPHPSNIEIPLDSKTFLSRHSLDMKFSYCDERITELMGYEPEELLGRSIY  
EYHALDSDHLTKTHHDMFTKGQVTTGQYRMLAKRGYVWVETQATVIYNTKNSQPQC  
IVCVNYVVSIGIIQHDLI FSLQQTCEVLKPVESSDMKMTQLFTKVESEDTSLSFDKLLK  
EPDALTLAPAAGDTIISLDGFSNDTETDDQLEEVPLYNDVMLPSPNEKLQINLAM  
SPLPTAETPKPLRSSADPALNQEVALKLEPNPESLELSFTMPQIQDQTPSPSDGSTRQ  
SSPEPNPSEYCFYVSDSMVNEFKLELVEKLFADTEAKNPFSTQDSDLLEMLAPYI  
PMDDDFQLRSFDQLSPLESSSASPESASPOSTVTVFQQTQIQEPTANATTTTATTDDEL  
KTVTKDRMEDIKILIASPSPTHIHKETTSATSSPYRDTQSRTASPNRAGKGVIEQTEK  
SHPRSPNVLSVALSORTTVPEEELNPKILALQNAQRKRMEHDGSLFQAVGIGTLLQQ  
PDDHAATTSLSWKRVKGCKSSSEQNGMEQKTIILIPSDLACRLLGQSMDESGLPQLTSY  
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polyA\_site 3678  
/note="42 A nucleotides"  
BASE COUNT 1197 a 695 c 675 g 1111 t

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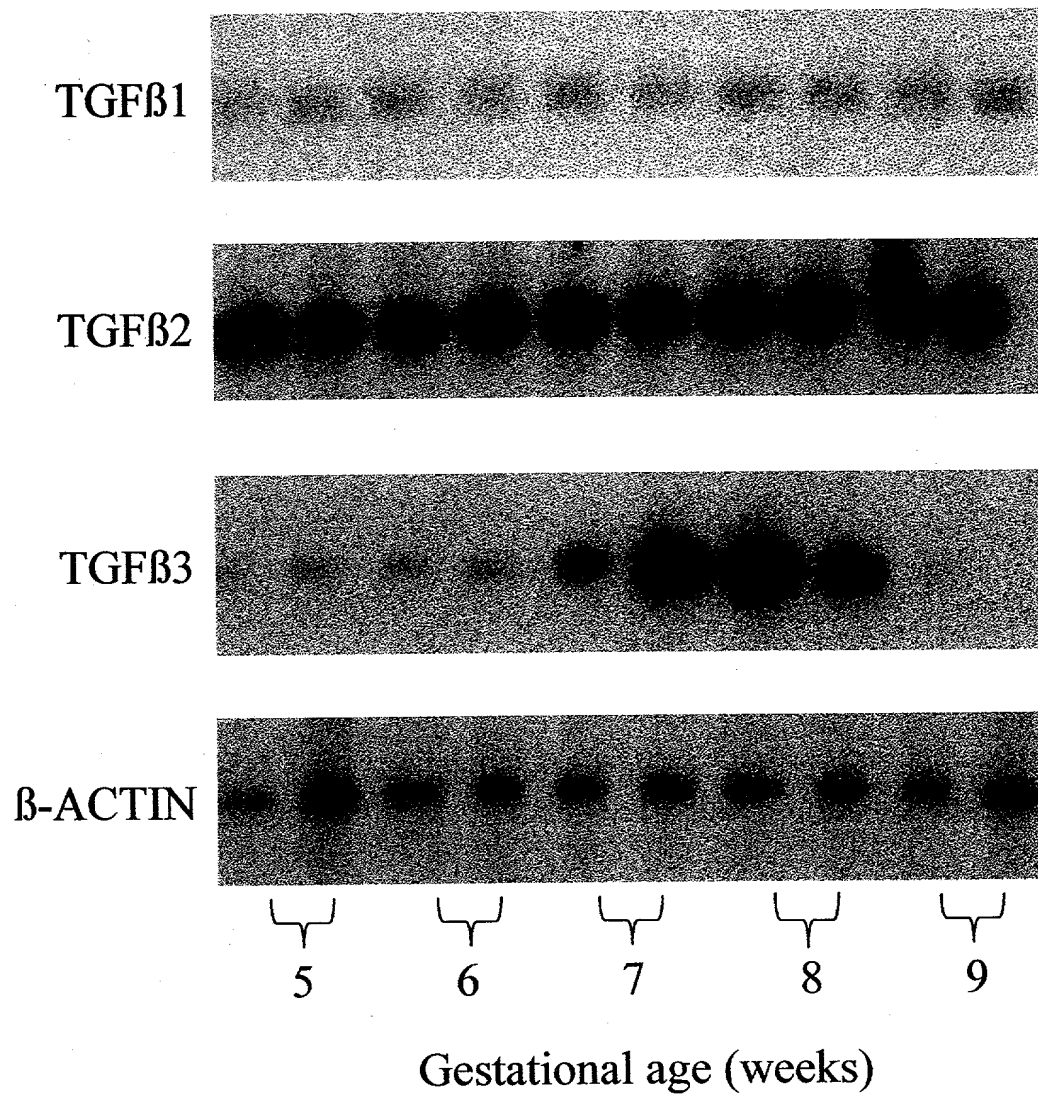
FIG. 2 (cont'd)

ORIGIN

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241 acttctggat gctgggtgatt tggatattga agatgacatg aaagcacaga tgaattgctt  
301 ttatttgaaa gccttggatg gttttgttat ggttctcaca gatgatgggtg acatgattta  
361 catttctgat aatgtgaaca aatacatggg attaactcag tttgaactaa ctggacacag  
421 tgtgtttgat tttactcatc catgtgacca tgaggaaatg agagaaatgc ttacacacag  
481 aaatggcctt gtgaaaaagg gtaaaagaca aaacacacag cgaagctttt ttctcagaat  
541 gaagtgtacc ctaactagcc gaggaagAAC tatgaacata aagtctgcaa catggaagggt  
601 attgcaactgc acaggccaca ttacagtata tgataccaac agtaaccaac ctccagtgtgg  
661 gtataagaaa ccacttatga cctgcttggg gctgatttgt gaaccctattc ctccacctc  
721 aaatattgaa attccttttag atagcaagac tttcctcagt cgacacagcc tggatatgaa  
781 attttcttat tgtgatgaaa gaattaccga attgatggga tatgagccag aagaactttt  
841 aggccgctca atttatgaat attatcatgc tttggactct gatcatctga ccaaaactca  
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961 aggtggatat gtctgggttg aaactcaagc aactgtcata tataacacca agaattctca  
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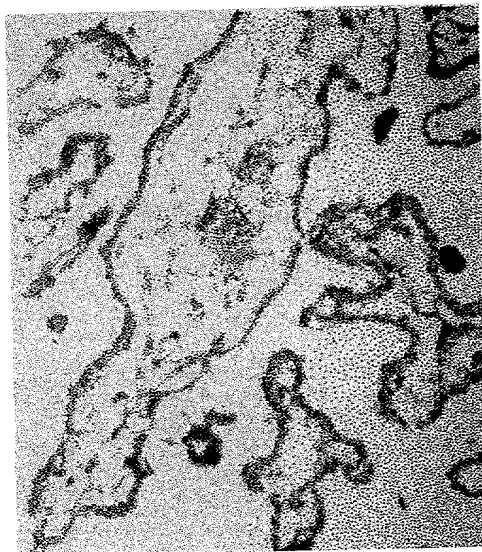
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FIG. 3A

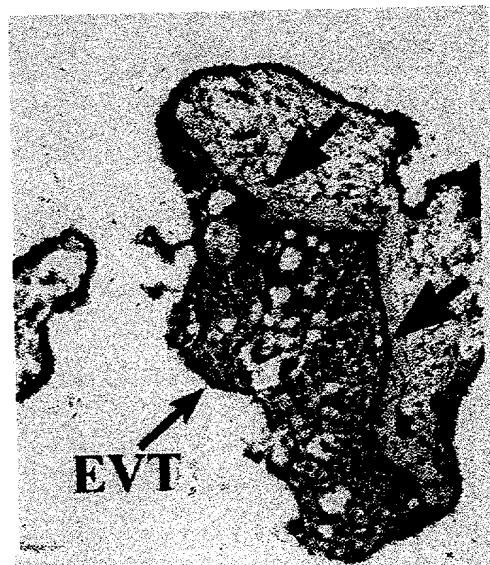


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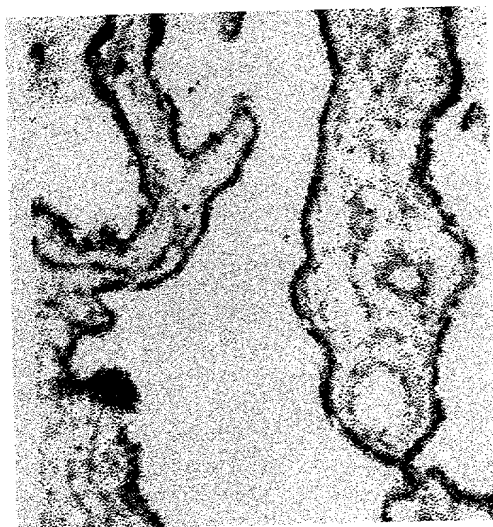
FIG. 3B



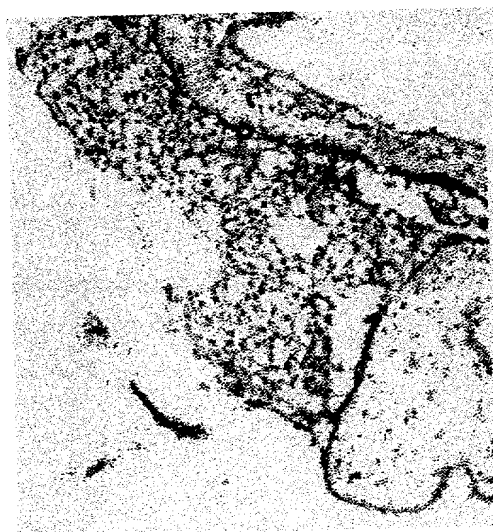
5 weeks



8 weeks



12 weeks

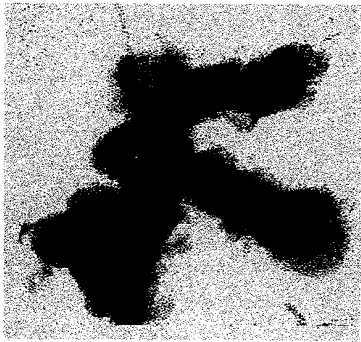


8 weeks (control)

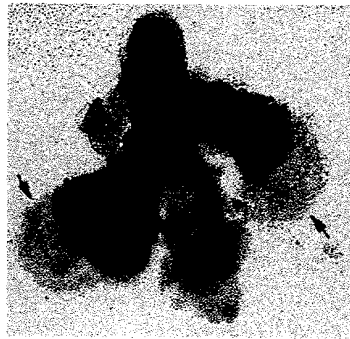
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FIG. 4A

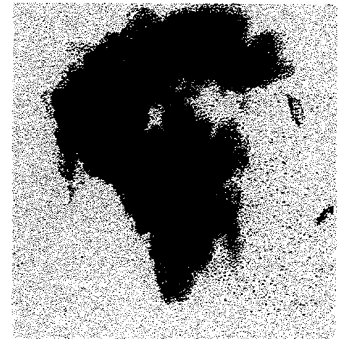
CONTROL



AS- $\beta$ 3



AS- $\beta$ 3+ $\beta$ 3



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FIG. 4B

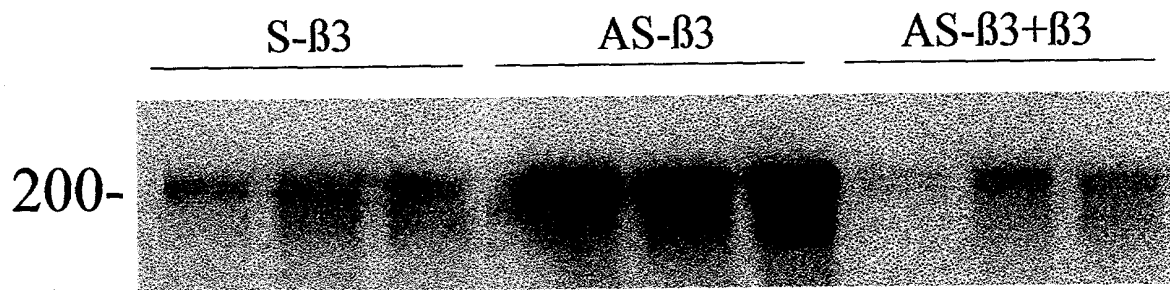




FIG. 4C

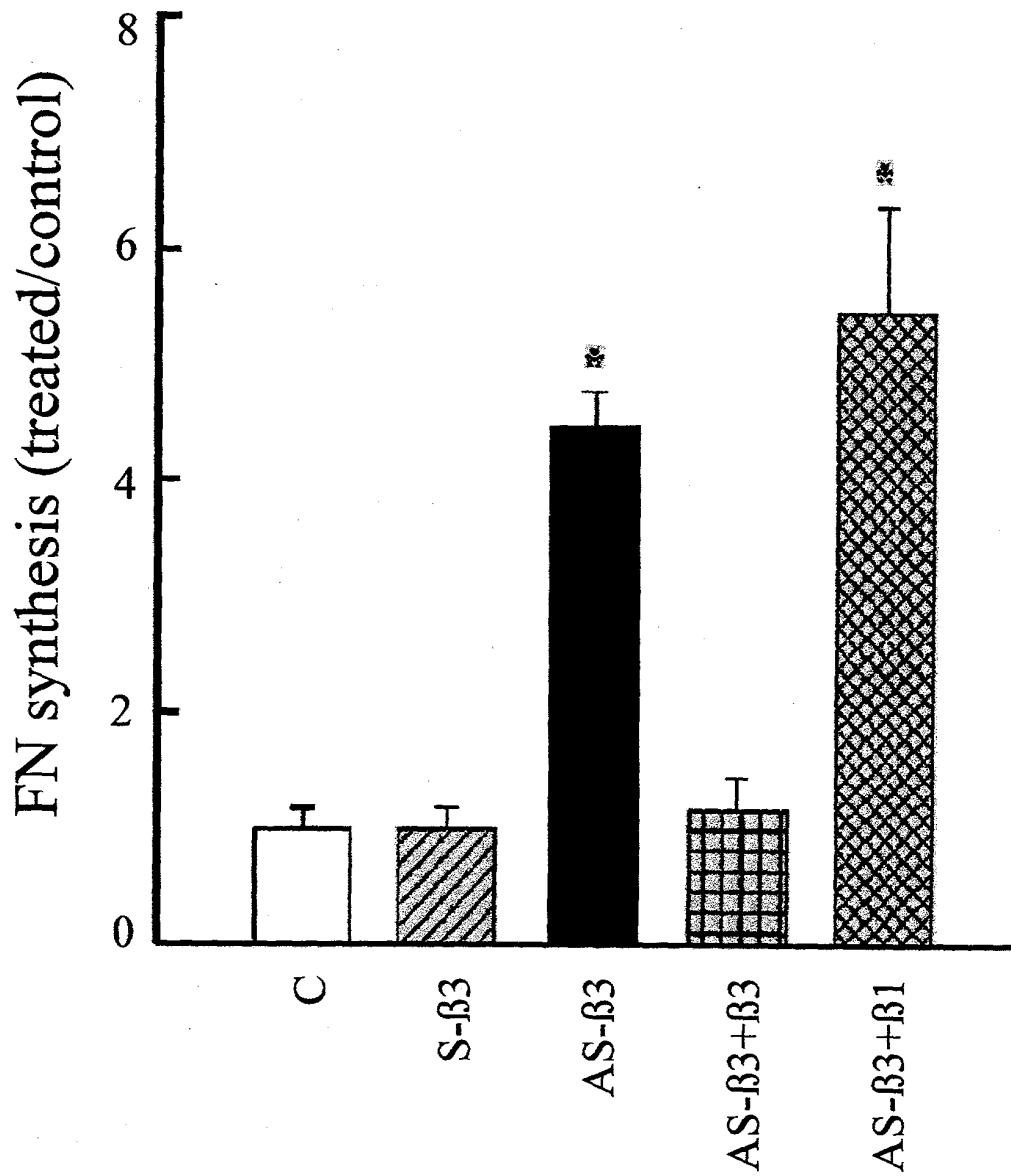
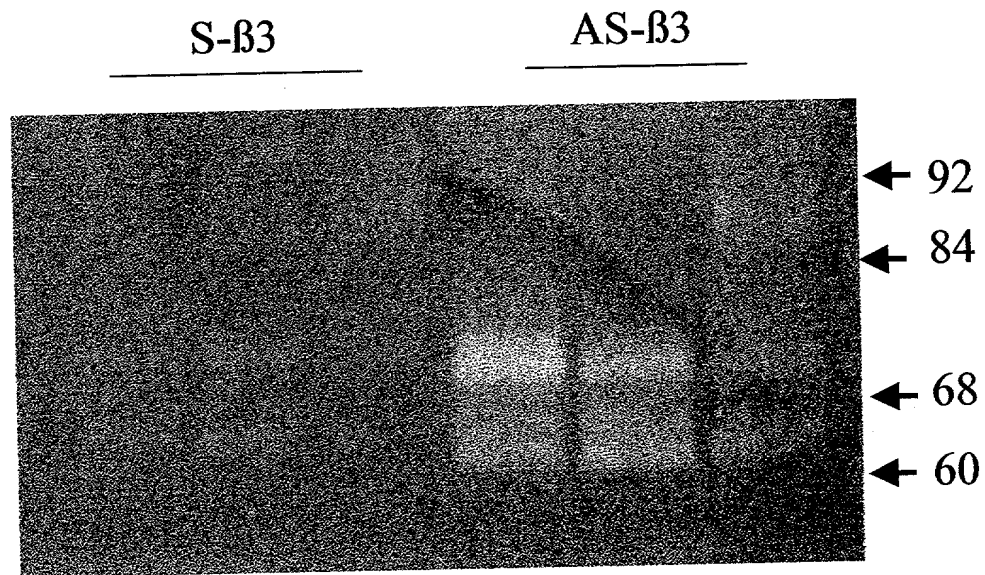
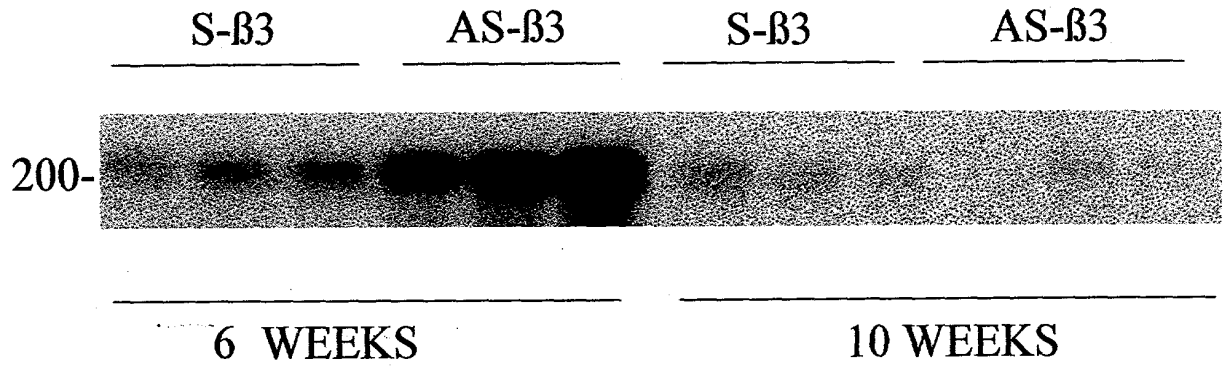


FIG. 4D



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FIG. 4E



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FIG. 5A

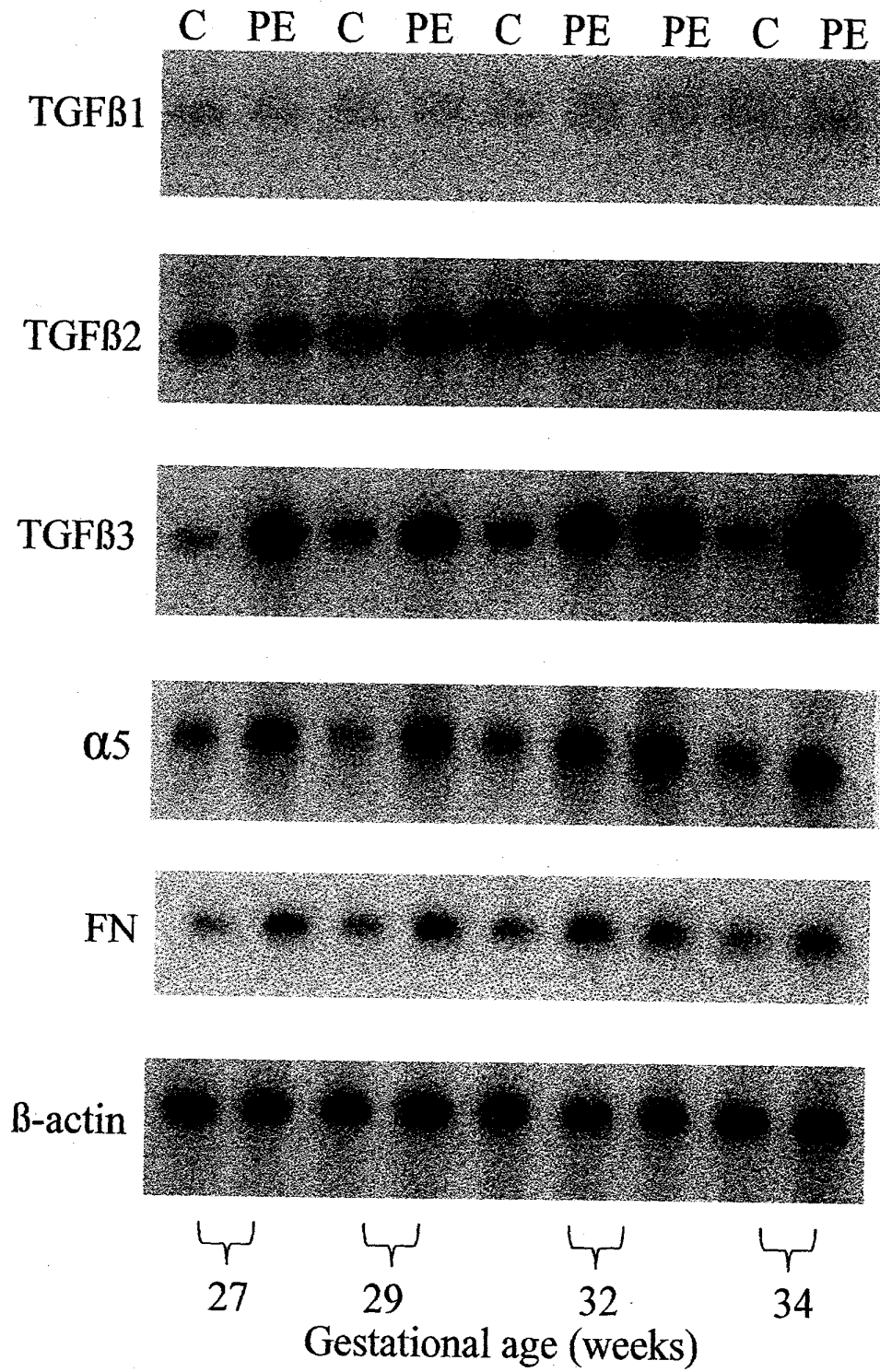
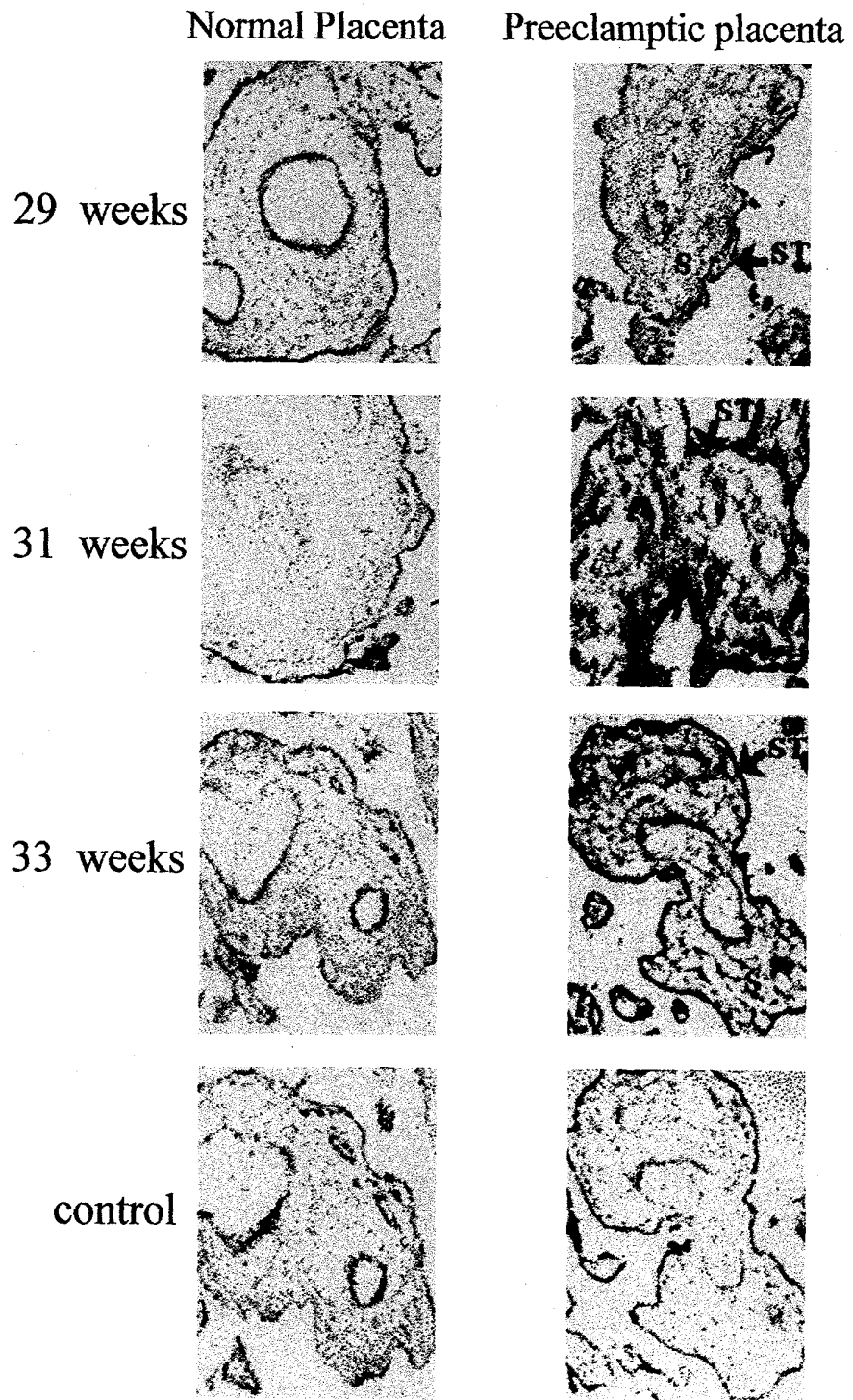


FIG. 5B

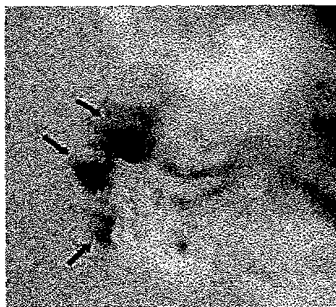


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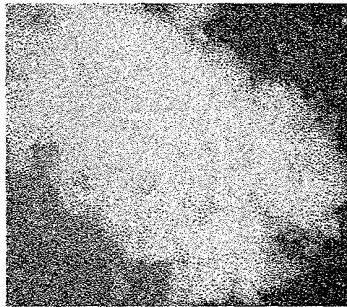
## FIG. 6A

Normal Placenta

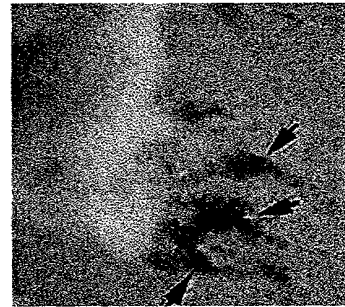
Preeclamptic placenta



S-β3



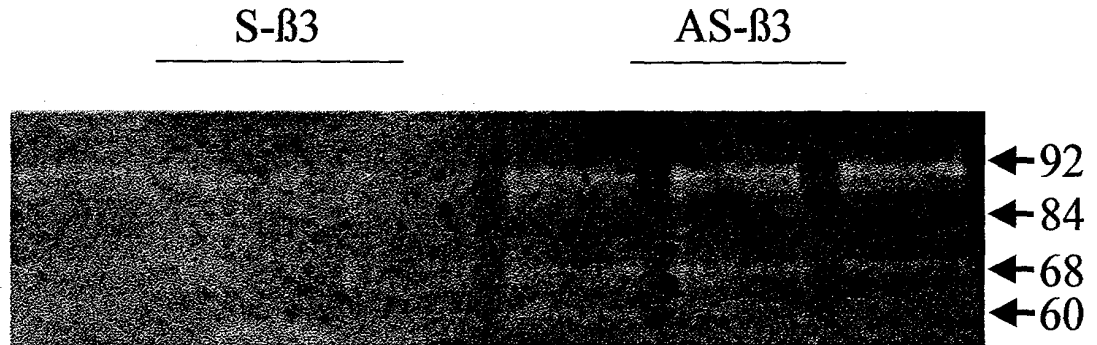
S-β3



AS-β3

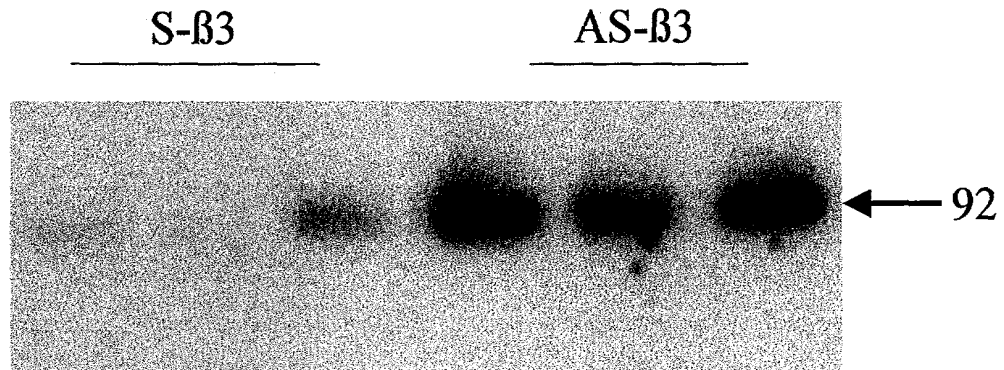
2005040" 8548200T

FIG. 6B



2005040 " 85T8200T  
10028158 . 040902

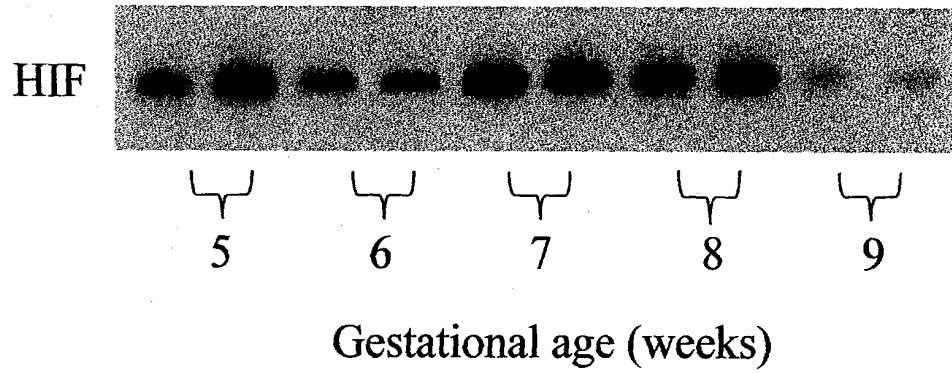
FIG. 6C



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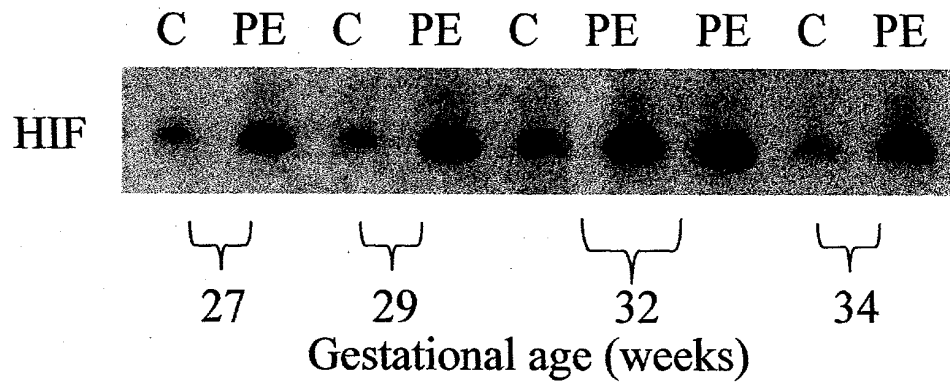


FIG. 7A



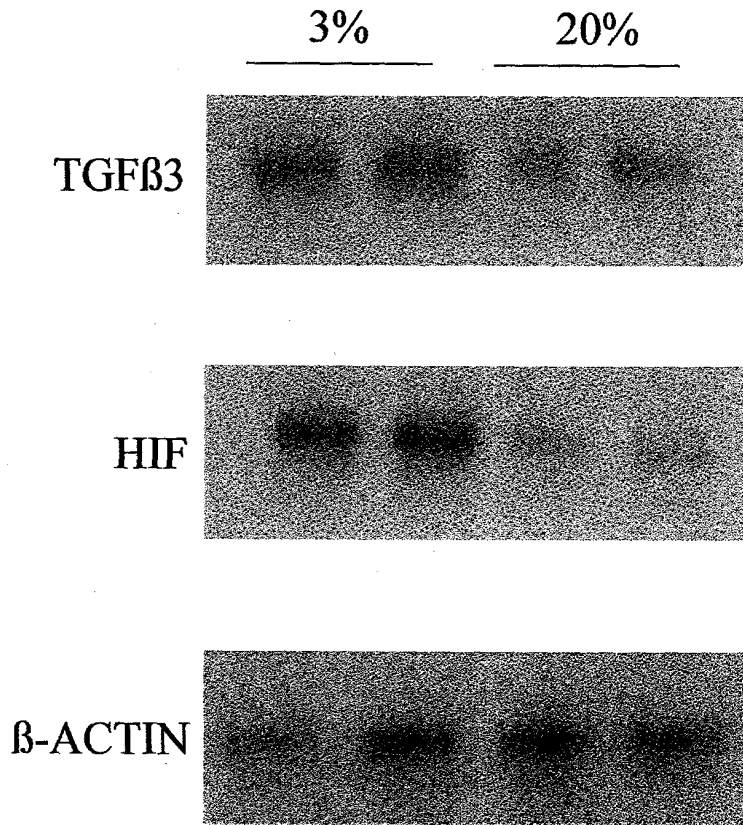
20050401 85F52007

FIG. 7B



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FIG. 8



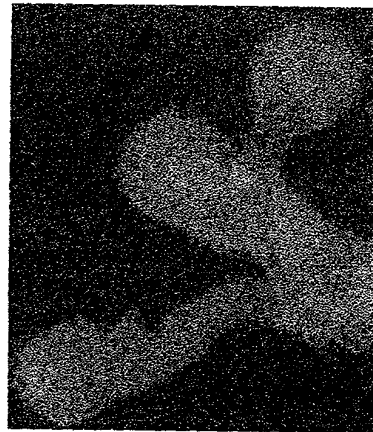
2005040 " 85T8200T

FIG. 9

20% O<sub>2</sub>

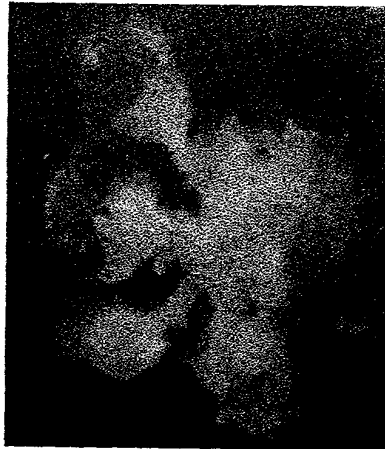


25X



50X

3% O<sub>2</sub>



25X



50X

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2006040" 85782001

FIG. 10

S-HIF



20X

AS-HIF



20X

AS-HIF



40X

AS-HIF



40X

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